

## REMARKS

Reconsideration of the present application is requested on the basis of the following particulars.

1. In the Claims

a. New Claims

As shown in the List of Current Claims, new claims 19-25 are firstly presented. Claims 11-18 have been canceled without prejudice or disclaimer.

The subject matter of claims 14 and 15 is not specifically represented in the new claims and the rejections of such claims are considered moot. Accordingly, Applicant will not specifically address the rejection of claims 14 and 15 in the remarks that follow.

New claims 19-25 substantially follow the drawings shown in FIGS. 1a-1h and 2, and the detailed description provided on page 2, last paragraph through page 6.

Claim 19 is a method claim which recites a method for making a vertically integratable circuit in accordance with the present application. The language of claim 19 substantially parallels the aforementioned drawings of FIGS. 1a-1h. Claims 20-22 depend from claim 19. Claim 20 recites the interruption of metalization 18 shown in FIG. 1h. Claim 21 recites the active circuit components 8 extending around the connection between the first and second side vertical contacts 15, 18 in FIG. 1h. Claim 22 recites the third metalization 19 shown in FIG. 2.

Claim 23 recites the vertically integratable circuit of FIG. 1h. Claim 24 depends from claim 23 and recites the features of FIG. 2.

Claim 25 recites another method claim in accordance with the present application wherein the method uses the transitional language "consisting essentially of." This claim recites the method for forming the vertically integratable circuit of FIG. 2. Claim 26 recites the vertically integratable circuit of FIG. 2 using the transitional language "consisting essentially of."

It is submitted that the new claims do introduce any new matter to the present application. Moreover, it is asserted by Applicant that the new claims comply with 35 U.S.C. § 112, and to other U.S. laws and regulation pertinent to claim language and structure.

b. Rejection of Claims 11-18 under 35 U.S.C. 112, 1<sup>st</sup> paragraph

In view of the new claims which do not utilize the specific language referred to in the rejection of claims 11-18 under 35 U.S.C. 112, 1<sup>st</sup> paragraph, this rejection is considered moot by Applicant. Withdrawal of this rejection is thus requested.

c. Rejection of Claims 11-15, 18 under 35 U.S.C. 112, 2<sup>nd</sup> paragraph

This rejection is specifically addressed in the new claims wherein it is clarified where and when the gaps are formed in the first substrate and the first insulation layer. These gaps are particularly recited as being filled by different metalizations at different stages of the methods recited in the claims.

It is submitted that the new claims are sufficiently clear as to when and where the gaps are formed, and of what they are filled with. Accordingly, withdrawal of this rejection is requested.

2. Rejection of Claims 16 and 17 as Being Anticipated by U.S. Patent 5,426,072 (Finnila)

Claims 16 and 17 were rejected as being anticipated by the Finnila disclosure. Claims 16 and 17 are canceled and replaced by new claim 23.

This rejection is traversed in view of new claim 23 which substantially recites the subject matter of canceled claim 16. Particularly, the Finnila disclosure does not disclose or suggest the second insulation layer located on a side of a first circuit layer, and the second circuit layer defined as a metallization, both presently recited in claim 23 of the instant application. Instead, the Finnila disclosure describes a plurality of different layers 13 and 15 that are deposited over selected areas of layer 12 (col. 3, lines 45-68; FIGS. 4 and 5). Moreover, while the Finnila disclosure discusses providing a metallization strip 31 along a backside of the layer 11, this strip is not a layer as recited in claim 23. This fact is further evidenced by the overglass layer 29 which extends along the entire backside of layer 11 (col. 5, lines 42-54; FIG. 6).

Claim 24 depends from claim 23, and recites the additional features of the embodiment illustrated in FIG. 2 of the present application.

Accordingly, in view of these observations, Applicant respectfully submits that claims 23 and 24 are patentable.

3. Rejection of Claims 11-13 as Being Unpatentable Over U.S. Patent 5,426,072 (Finnila)

Claims 11-13 were rejected as being obvious in view of the Finnila disclosure. Claims 11-13 are canceled and the subject matter of these claims is included in new claims 19 and 25.

The Finnila disclosure fails to disclose or suggest basic features recited in claims 19 and 25. More particularly, the Finnila disclosure teaches the steps of applying various segmented layers 13, 15 over layer 12 (col. 3, lines 45-68; FIGS. 4 and 5). In accordance with claims 19 and 25 of the instant application, a second insulation layer is applied over the first circuit layer and gaps are then formed in the

second insulation layer. The Finnila disclosure fails to disclose or suggest the aforementioned steps concerning the second insulation layer in claims 19 and 25.

Next, the Finnila disclosure describes forming trenches 14a and 14b through the silicone layer 12 to the insulation layer 11. On the contrary, in claims 19 and 25, the at least one first gaps are defined as extending through the second insulation layer and into the first circuit layer in communication with the active circuit components thereof. Only in a subsequent step are the at least one second gaps formed which extend through the first insulation layer and into a distance of the first circuit layer. These steps of claims 19 and 25 of the present application are neither disclosed or suggested by the Finnila disclosure.

Furthermore, while claims 19 and 25 recite the step of applying a second metalization along the second side of the first insulation layer, the Finnila disclosure merely describes metalization strip 31 that extends along a portion of the insulation layer 11. Instead, it is clear from the Finnila disclosure that an overglass layer is applied over the insulation layer 11 and the metalization strip 31 only provides a contact for the indium bumps 30 (FIG. 6).

It will be pointed out that claim 25 also recites the additional steps for forming the embodiment of FIG. 2 of which are neither described nor suggested as recited in claim 25.

In view of these comments, Applicant submits that claims 19 and 25 are patentable over the Finnila disclosure. Moreover, claims 20-22, which depend directly from claim 19, are patentable based on their dependency from claim 19 and their individually recited features.

4. Rejection of Claims 11, 16 and 18 as Being Anticipated By U.S. Patent 6,104,081 (Dekker et al.)

Claims 11, 16 and 18 were rejected as being anticipated by the Dekker et al. disclosure. Claims 11, 16 and 18 are canceled and the subject matter of these claims is included in new claims 19, 23 and 25.

Applicant submits that claims 19, 23 and 25 are patentable over the disclosure of Dekker et al. Particularly, Dekker et al. fail to disclose or suggest a second metalization along the second side of a first insulation layer and second side vertical contacts recited in claims 19, 23 and 25. Instead, it is clear from the Dekker et al. disclosure that the material 18 is removed and never replaced with a metalization layer. Thus, the Dekker et al. disclosure cannot be construed to teach the methods of claims 19 and 25, and moreover the circuit of claim 22 in the instant application.

In accordance with these simple observations, Applicant respectfully submits that claims 19, 22 and 25 are patentable over the Dekker et al. disclosure. Claims 20-22, which depend from claim 19, and claims 23 and 24, which depend from claim 22, are thus patentable based on their dependency from claims 19 and 22, and their individually recited features.

##### 5. Conclusion

In view of the new claims, and further in view of the foregoing remarks, it is respectfully submitted that the application is in condition for allowance. Accordingly, it is respectfully requested that claims 19-25 be allowed and the application be passed to issue.

Application No.: 09/926,377  
Examiner: David L. HOGANS  
Art Unit: 2813

If any issues remain that may be resolved by a telephone or facsimile communication with the Applicant's Attorney, the Examiner is invited to contact the undersigned at the numbers shown below.

BACON & THOMAS, PLLC  
625 Slaters Lane, Fourth Floor  
Alexandria, Virginia 22314-1176  
Phone: (703) 683-0500

Date: June 30, 2004

amendment 070704.wpd

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Justin J. Cassell', written over a horizontal line.

JUSTIN J. CASSELL  
Attorney for Applicant  
Registration No. 46,205